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09/637,381	08/11/2000	Lee Evan Nakamura	ST9-99-124	8892

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WASHINGTON, DC 20037

EXAMINER
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DODDS, HAROLD E

ART UNIT	PAPER NUMBER
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2177

DATE MAILED: 05/12/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/637,381

Applicant(s)

NAKAMURA ET AL.

Examiner

Harold E. Dodds, Jr.

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-24 and 76-81 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 and 76-81 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Specification*

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this and Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 9, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pereira (U.S. Patent No. 6,122,640) and Carper et al. (U.S. Patent No. 6,390,374).

4. Pereira rendered obvious independent claims 1, 9, and 17 by the following:

"...creating a...in-memory database table..." at col. 2, lines 53-56, col. 12, lines 9-10, and col. 9, lines 62-66.

"...and loading data into the in-memory database table..." at col. 19, lines 43-51 and col. 9, lines 62-66.

Pereira does not teach the use of a persistent in-memory table.

5. However Carper teaches the use of a persistent in-memory table as follows:

"...persistent in-memory...table" at col. 14, lines 41-44.

It would have been obvious to one ordinarily skilled in the art at the time of the invention to persistently store tables in memory in order have rapid access to the data in these tables.

6. Claims 2, 3, 10, 11, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pereira and Carper as applied to claims above, and further in view of Sarkar (U.S. Patent No. 6,012,067).

As per claims 2, 10, and 19, the "...data is loaded..." is taught by Pereira at col. 19, lines 43-51,

but the "...from a relational data store..." is not taught by either Pereira or Carper.

However, Sarkar teaches the use of a relational data store as follows:

"...So far SQL queries are limited to a specific relational database with a specific data dictionary (often called the meta data repository)..." at col. 5, lines 58-62.

It would have been obvious to one ordinarily skilled in the art at the time of the invention to use a relational data store as a source of data for a database in order to use widely used technology for sources of data to gain acceptance for the system.

7. As per claims 3, 11, and 19, the "...in-memory database table..." is taught by Pereira at col. 19, lines 43-51 and col. 9, lines 62-66, but the "...is user-defined..." is not taught by either Pereira or Carper.

However, Sarkar teaches the use of user-defined activities as follows:

"...A user-defined routine (UDR) is a routine that a user creates and registers in the system catalog tables and that is invoked within a SQL statement or another routine..." at col. 3, lines 34-37.

It would have been obvious to one ordinarily skilled in the art at the time of the invention to allow users to define tables in a database in order to provide for user input into the design of the database and gain greater acceptance in the user community.

8. Claims 4, 8, 12, 16, 20, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pereira and Carper as applied to claims above, and further in view of Shaunhnessy (U.S. Patent No. 5,692,178).

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As per claims 4, 12, and 20, the "...to the in-memory database table..." is taught by Pereira at col. 19, lines 43-51 and col. 9, lines 62-66, but the "...enabling multiple users..." and the "...to share access..." are not taught by either Pereira or Carper.

However, Shaughnessy teaches the sharing of access to a database by multiple users as follows:

"...In this manner, multiple users may transparently access the same resources in the same database at the same time, with data integrity fully maintained..." at col. 2, lines 31-34.

"...In contrast to a full lock, a write lock (shared access) only prevents other users from changing the contents of a family of objects..." at col. 9, lines 55-57.

It would have been obvious to one ordinarily skilled in the art at the time of the invention to allow multiple users to access a database at the same time in order to provide for greater utilization of the database resources.

9. As per claims 8, 16, and 24, the "...to the in-memory database table..." is taught by Pereira at col. 19, lines 43-51 and col. 9, lines 62-66, but the "...limiting access..." is not taught by either Pereira or Carper.

However, Shaughnessy teaches the limiting access to database tables as follows:

"...It does not, however, limit user access to the objects in the family, for example, for viewing a database table..." at col. 9, lines 57-58.

It would have been obvious to one ordinarily skilled in the art at the time of the invention to limit the access to database tables in order to permit the viewing or modifying of data in the database by unauthorized viewers.

10. Claims 5, 13, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pereira and Carper as applied to claims 1, 9, and 17 above respectively, and further in view of Blakeley et al. (U.S. Patent No. 5,761,493).

As per claims 5, 13, and 21, the "...dropping the in-memory database table upon receipt of a drop table command...is not taught by either Pereira or Carper.

However, Blakeley teaches the use of the drop table command as follows:

"...SQL commands for data definition in the database are CREATE TABLE (specifies a relation schema), ALTER TABLE (adds an attribute to a schema), and DROP TABLE (deletes a schema)..." at col. 1, lines 63-66.

It would have been obvious to one ordinarily skilled in the art at the time of the invention to allow the dropping of a database table in order to provide a means of removing a table from the database without disrupting the other tables in the database. modifying of data in the database by unauthorized viewers.

11. Claims 6, 14, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pereira and Carper as applied to claims 1, 9, and 17 above respectively, and further in view of Blakeley and Meyerzon et al. (U.S. Patent No. 6,424,966).

As per claims 6, 14, and 22, the "...dropping the in-memory database table upon system shutdown..." is not taught by either Pereira or Carper.

However, Blakeley teaches the dropping of tables as follows:

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"...SQL commands for data definition in the database are CREATE TABLE (specifies a relation schema), ALTER TABLE (adds an attribute to a schema), and DROP TABLE (deletes a schema)..." at col. 1, lines 63-66.

It would have been obvious to one ordinarily skilled in the art at the time of the invention to allow the dropping of a database table in order to provide a means of removing a table from the database without disrupting the other tables in the database. modifying of data in the database by unauthorized viewers.

Blakeley does not teach the use of system shutdowns,

However, Meyerzon teaches the use of system shutdowns as follows:

"...The notification source 250 is also responsible for requesting an initialization crawl (FIG. 5b) whenever the notification source 250 first starts or experiences a discontinuity such as a system shutdown..." at col. 10, lines 28-32.

It would have been obvious to one ordinarily skilled in the art at the time of the invention to drop tables created by users during the current session at the time of system shutdown in order to return the table structure of a database to its condition before the start of the session.

12. Claims 7, 15, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pereira and Carper as applied to claims 1, 9, and 17 above respectively, and further in view of Benedikt et al. (U.S. Patent No. 6,202,063).

As per claims 7, 15, and 23, the "...for creating the in-memory database table..." is taught by Pereira at col. 2, lines 53-56 and col. 9, lines 62-66, but the "...providing a syntax..." is not taught by either Pereira or Carper.

However, Benedikt teaches the providing of syntax as follows:



"...Given the above-described teachings of the invention, an illustrative scenario is presented below in the context of FIGS. 4A and 4B whereby a query pre-processor of the invention performs query translation by providing an effective syntax query in response to a user-input query including certain geometric objects..." at col. 24, lines 33-38.

It would have been obvious to one ordinarily skilled in the art at the time of the invention to provide a syntax in order to provide the users with means of submitting queries to the databases.

13. Claims 76, 78, and 80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pereira and Carper as applied to claims 1, 9, and 17 above respectively, and further in view of Dugan et al. (U.S. Patent No. 6,363,411).

As per claims 76, 78, and 80, the "...in-memory database table..." is taught by Pereira at col. 9, lines 62-66,  
the "...is a persistent in-memory...table..." is taught by Carper at col. 14, lines 41-44,  
the "...database table that remains in memory..." is taught by Pereira at col. 3, lines 47-50 and col. 9, lines 62-66,  
the "...of said...in-memory database table..." is taught by Pereira at col. 9, lines 62-66,  
the "...of said persistent in-memory...table..." is taught by Carper at col. 14, lines 41-44,  
but the "...until a user specifies removal..." is not taught by either Pereira or Carper

However, Dugan teaches the user specified removal of data entities as follows:

"...If the SLP, SIBB or data status is not active or if data dependencies exist, SA ignores the deactivation request and notifies the requester; 4) logging all deactivations of data, SLPs and SIBBs; 5) enabling an authorized user to request the removal of an SLP, SIBB or data entity and specifying a time for a removal; 6) checking the status of the SLP, SIBB or data prior to forwarding a removal request to Data Management."

It would have been obvious to one ordinarily skilled in the art at the time of the invention to store tables in memory until a user specified that the table be removed in order provide the user with the control of access to these tables.

14. Claims 77, 79, and 81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pereira and Carper as applied to claims 1, 9, and 17 above respectively, and further in view of Farrell (U.S. Patent No. 5,664,153).

As per claims 77, 79, and 81, the "...in-memory database table..." is taught by Pereira at col. 9, lines 62-66,  
the "...is a persistent in-memory...table..." is taught by Carper at col. 14, lines 41-44,  
the "...database table..." is taught by Pereira at col. 3, lines 47-50,  
the "...accessed by a first user..." is taught by Pereira at col. 11, lines 65-67,  
the "...access by a second user..." is taught by Pereira at col. 11, lines 65-67,  
but the "...the data remains...after it is accessed..."  
and the "...and is available for access..." are not taught by either Pereira or Carper.

However, Farrell teaches remaining after access and being available for access as follows:

"...The overhead wasted when these accesses cross a boundary from one page to another is quite small compared to the overhead saved by correctly leaving the page open after the remaining accesses..." at col. 15, lines 29-32.

"...When valid output data is available, access state TC<sub>1</sub> 466 is entered..." at col. 12, lines 17-18.

It would have been obvious to one ordinarily skilled in the art at the time of the invention to persistently have tables remain in memory after access by one user for

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access by another user in order have rapid access to the data in these tables and not waste overhead between accesses of data.

***Response to Arguments***

15. Applicant's arguments filed on 9 January 2003 have been fully considered but they are not persuasive. In the first argument for independent claim 1 on page 3, paragraph 4, the Applicants state as follows:

"In the Office Action, col. 2, lines 53-56 is cited in support of Pereira disclosing an in-memory database table. That portion of Pereira relates to a database administrator deciding the percentage of blocks to remain free during the reorganization. That portion of Pereira, however, does not disclose or even suggest that such blocks hold a persistent in-memory database table, as required by the claims. Rather, the blocks, presumably of memory, even if they hold a portion of a database table, do not persistently hold the database table since the blocks of memory are used only in a reorganization process."

The concept of a "persistent in-memory database table" is taught by a combination of the Pereira and Carper references. A table that may be stored in the DBMS is clearly a database table. Likewise, Pereira teaches that the table may also be stored in memory. the Pereira teaches "...an in-memory database table..." at col. 9, lines 62-66 and Carper teaches "...a persistent in-memory...table..." at col. 14, lines 41-44.

16. In the second argument for independent claims 9 and 17 on page 5, paragraph 2, the Applicants state as follows:

"Independent claims 9 and 17 also recite a persistent in-memory database table. Since Pereira does not disclose, or even suggest, a persistent in-memory database table, as required by the claims, it is respectfully submitted that Pereira does not anticipate independent claims 1, 9 and 17."

The second argument refers back to the first argument. Since the response to the first argument showed that the combined references of Pereira and Carper rendered

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obvious independent claim 1 the response to the first argument is also valid for independent claims 9 and 17.

17. In the third argument for claims 2, 3, 10, 11, 18 and 19 on page 5, paragraphs 4 and 5, the Applicants state as follows:

"Claims 2-3, 10-11 and 18-19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Pereira in view of Sarkar. Applicant respectfully traverses the rejection at least because the asserted combination does not include all the limitations recited in the claims.

Sarkar is relied on for disclosing a relational data store and for disclosing a user defined routine. However, it is respectfully submitted that Sarkar does not satisfy the deficiencies of Pereira, and those references, either alone or in combination, do not teach or suggest all the limitations of the claims. Accordingly, even assuming arguendo that it would have been obvious to combine the teachings of Pereira with Sarkar, as asserted in the Office Action, such a combination would not satisfy all the limitations of the claims, and hence, does not render the claims unpatentable."

Since claims 2, 3, 10, 11, 18 and 19 depend of independent claims 1, 9, and 17 and no additional arguments have been provided concerning the other references, the response to the first argument is valid for the third argument and claims 2, 3, 10, 11, 18 and 19 are rendered obvious by Pereira and Carper.

18. In the fourth argument for claims 4, 8, 12, 16, 20, and 24 on page 5, paragraph 6 and page 6, paragraph 1, the Applicants state as follows:

"Claims 4, 8, 12, 16, 20 and 24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Pereira in view of Shaunghnessy. Applicant respectfully traverses the rejection at least because the asserted combination does not include all the limitations recited in the claims. Shaunghnessy is relied on for disclosing shared access and for disclosing limiting access. However, it is respectfully submitted that Shaunghnessy does not satisfy the deficiencies of Pereira, and those references, either alone or in combination, do not teach or suggest all the limitations of the claims. Accordingly, even assuming arguendo that it would have been obvious to combine the teachings of Pereira with Shaunghnessy, as asserted in the Office Action, such a combination would not satisfy all the limitations of the claims, and hence, does not render the claims unpatentable."

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Since claims 4, 8, 12, 16, 20 and 24 depend of independent claims 1, 9, and 17 and no additional arguments have been provided concerning the other references, the response to the first argument is valid for the fourth argument and claims 4, 8, 12, 16, 20 and 24 are rendered obvious by Pereira and Carper.

19. In the fifth argument for claims 5, 13 and 21 on page 6, paragraph 2, the Applicants state as follows:

"Claims 5, 13 and 21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Pereira in view of Blakeley. Applicant respectfully traverses the rejection at least because the asserted combination does not include all the limitations recited in the claims. Blakeley is relied on for disclosing dropping a database table upon receipt of a drop table command. However, it is respectfully submitted that Blakeley does not satisfy the deficiencies of Pereira, and those references, either alone or in combination, do not teach or suggest all the limitations of the claims. Accordingly, even assuming arguendo that it would have been obvious to combine the teachings of Pereira with Blakeley, as asserted in the Office Action, such a combination would not satisfy all the limitations of the claims, and hence, does not render the claims unpatentable."

Since claims 5, 13 and 21 depend of independent claims 1, 9, and 17 and no additional arguments have been provided concerning the other references, the response to the first argument is valid for the fifth argument and claims 5, 13 and 21 are rendered obvious by Pereira and Carper.

20. In the sixth argument for claims 6, 14 and 22 on page 6, paragraph 3 and page 7, paragraph 1, the Applicants state as follows:

"Claims 6, 14 and 22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Pereira in view of Blakeley and Meyerson. Applicant respectfully traverses the rejection at least because the asserted combination does not include all the limitations recited in the claims. Meyerson is relied on for disclosing dropping a database table upon system shutdown. However, it is respectfully submitted that Blakeley and Meyerson do not satisfy the deficiencies of Pereira, and those references, either alone or in combination, do not teach or suggest all the limitations of the claims. Accordingly, even assuming arguendo that it would have been obvious to combine the teachings of Pereira with Blakeley and Meyerson, as asserted in the Office Action, such a

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combination would not satisfy all the limitations of the claims, and hence, does not render the claims unpatentable.

Since claims 6, 14 and 22 depend of independent claims 1, 9, and 17 and no additional arguments have been provided concerning the other references, the response to the first argument is valid for the sixth argument and claims 6, 14 and 22 are rendered obvious by Pereira and Carper.

21. In the seventh argument for claims 7, 15 and 23 on and page 7, paragraph 2, the Applicants state as follows:

"Claims 7, 15 and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Pereira in view of Benedikt. Applicant respectfully traverses the rejection at least because the asserted combination does not include all the limitations recited in the claims. Benedikt is relied on for disclosing providing a syntax. However, it is respectfully submitted that Benedikt does not satisfy the deficiencies of Pereira, and those references, either alone or in combination, do not teach or suggest all the limitations of the claims. Accordingly, even assuming arguendo that it would have been obvious to combine the teachings of Pereira with Benedikt, as asserted in the Office Action, such a combination would not satisfy all the limitations of the claims, and hence, does not render the claims unpatentable."

Since claims 7, 15 and 23 depend of independent claims 1, 9, and 17 and no additional arguments have been provided concerning the other references, the response to the first argument is valid for the seventh argument and claims 7, 15 and 23 are rendered obvious by Pereira and Carper.

22. In the eighth argument for claims 76-81 on page 6, paragraph 3, the Applicants state as follows:

"New claims 25-30 depend from one of claims 1, 9, 17, and hence, are patentable for at least the same reasons."

New claims 25-30 were renumbered 76-81, respectively because the numbering was the same as some of the cancelled claims. Since claims 76-81 depend of independent

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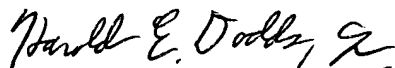
claims 1, 9, and 17 and no additional arguments have been provided concerning the other references, the response to the first argument is valid for the eighth argument and claims 76-81 are rendered obvious by Pereira and Carper.

**Conclusion**


23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harold E. Dodds, Jr. whose telephone number is (703)-305-1802. The examiner can normally be reached on Monday - Friday 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on (703)-305-9790. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-305-3900.



Harold E. Dodds, Jr.  
Patent Examiner  
May 8, 2003



GRETA ROBINSON  
PRIMARY EXAMINER